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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
BILAS, ROBERT	
ART UNIT	PAPER NUMBER
4121	
MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/537,488	LUO ET AL.	
	Examiner	Art Unit	
	ROBERT BILAS	4121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 June 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *06/03/2005,09/27/2006,03/02/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Constructions

1. The claim language of claim 14 "designed to perform network address translation for management messages of member devices"; "designed to accomplish allocation of private IP addresses to member network devices"; "designed to manage member network devices in a concentrate manner, and to forward management messages, which are from outside of the cluster and destined to member devices, to respective member devices to process, so that the member devices can process the management messages according to normal processing process"; "designed to detect the topological architecture of network and to acquire the information of topological architecture of network within a specified number of hops in the network; the member device comprises"; and "designed to accomplish cluster management at the member device end" is being construed as optional since the actual functionality is never required by the claim. See MPEP 2111.04 and 2106 part II©.

Claim Rejections – 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1 -13 are rejected under 35 U.S.C. 101. The recitation of a machine and process in a single claim violates 35 U.S.C. 101 which recites various categories in the alternative only. See MPEP 2173.05(p).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 5 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claim recites “stream transform technology” however it is not described in the specification, further, a search for the term “stream transform technology” did not yield any results. It is not clear what stream transformation technology is, thus one of ordinary skill in the art would require undue experimentation in order to make and use the claimed invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1 – 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. With respect to claims 1-13, the recitation of the specific network devices in the preamble constitutes a specific apparatus and the method steps constitute a method of using the apparatus

6. Claim 5 is rejected under 35 U.S.C. 112, second paragraph. A search for the term "stream transform technology" did not yield any results. It is not clear what stream transformation technology is. Due to the ambiguities and confusion in claim 5, no art has been applied thereto, see *In re Steele*, 49 CCPA 1295, 305 F.2d 859, 134 USPQ 292 (1962) and *In re Wilson*, 424 F.2d 1382, 165 USPQ 494 (CCPA 1970). The examiner will not speculate as to the intended meaning.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claim 1 is rejected under U.S.C. 102(b) as being anticipated by Moon-Jeong Choi, U.S. 2002/0040397 hereinafter referred to as Choi.

9. For claim 1, Choi teaches establishing IP data channels (see 1st sentence of paragraph 34[The DHCP server 20 provides the devices within the home network 1 with unique identifiers (i.e., IP addresses)] and no. 20 of figure 3), a cluster management device (see 1st sentence of paragraph 34[The DHCP server 20 provides the devices within the home network 1 with unique identifiers (i.e., IP addresses)] and no. 20 of figure 3), network devices in the cluster (see LD1, LD2 and LD3 of figure 3), a network management device (see the lookup server no. 22 of figure 3 and the first sentence of paragraph 16[a lookup server for managing the plurality of devices]) and managing the network devices in the cluster through said IP data channels by said network management device (see the first sentence of paragraph 41[The lookup server 22 manages and provides registration information about the devices within the home network 1]).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 2-3 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Choi in view of Dinker et al U.S. 7035858, hereinafter referred to as Dinker.

12. Choi teaches cluster management device configures and updates other network devices with private IP addresses and routes (see 1st sentence of paragraph 34[The DHCP server 20 provides the devices within the home network 1 with unique identifiers (i.e., IP addresses)]). However, Choi fails to explicitly teach configuring and updating network devices according to the topological architecture of the network and device information of the network devices in the cluster. Dinker does teach such a limitation. According to Dinker, dynamic cluster membership may be handled by a topology manager (lines 46 - 48 of column 2 [dynamic cluster membership may be handled by a topology manager]). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have combined the teachings of Dinker to have cluster membership handled by a topology manager as taught by Choi in order to have cluster membership configuring and updating according to the topological architecture of the network.

13. Choi and Dinker teach the limitations of claim 2 from which claim 3 depends. Choi does not teach cluster management device configures the other network devices with private IP addresses dynamically. However, Dinker does in fact teach such a limitation (see column 2, lines 46 and 47 [dynamic cluster membership may be handled by a topology manager]). Therefore, it would have

been obvious to a person having ordinary skill in the art at the time the invention was made to have combined the teachings of Dinker to have cluster management device configures the other network devices with private IP addresses dynamically in order, as suggested by Dinker, to have "dynamic cluster membership may be handled by a topology manager".

14. Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choi in view of Poston, U. S. 2008/0162594, hereinafter referred to as Poston.

Choi teaches one of the cluster management devices is responsible for managing the configuration and update of private IP addresses and routes of the network devices in the cluster (see 1st sentence of paragraph 34 [The DHCP server 20 provides the devices within the home network 1 with unique identifiers (i.e., IP addresses)]). However, Choi does not teach in case said cluster management device fails, one of the other cluster management devices is designated to be responsible for managing the configuration and update of private IP addresses and routes of the network devices. Poston does teach such a limitation. Poston teaches a backup system to counteract data loss (see the 2nd and 3rd sentences of the abstract [To counteract such loss of data a backup system may be employed. Common backup systems make a copy of either of the data on a storage device or the data, which has changed, on a storage device]). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have combined the teachings of

Choi and Poston to have one of the other cluster management devices to be designated to be responsible for managing the configuration and update of private IP addresses and routes of the network devices in the cluster in case said cluster management device fails.

15. Choi teaches cluster management device establishes IP data channels via said cluster management device between the network devices in the cluster and said network management device with network address translation technology (see 2nd sentence of paragraph 30[a translation is performed in the gateway 12 between a private IP address assigned to devices of the home network 1 and a public IP address]).

16. Claim 7 is rejected under 35 U.S.C. as being unpatentable over Choi in view of Dinker and in further view of Poston.

Choi and Poston teach the limitations of claim 4 from which claim 7 depends. Choi also teaches step 1: designating a device in the network as the cluster management device (see paragraph 34, 1st sentence [The DHCP server 20 provides the devices within the home network 1 with unique identifiers (i.e., IP addresses)]) and configuring the device correspondingly by the network management device (see paragraph 41, 2nd sentence [the IP addresses allocated to the devices of the home network 1 are managed by the lookup server 22]).

In addition, Choi teaches step 4: adding the designated candidate devices to the cluster and configures the candidate devices correspondingly by the

cluster management device, so as to make the candidate devices become member devices of the cluster (see paragraph 14 [a Dynamic Host Configuration Protocol (DHCP) server for allocating a private IP address to the plurality of devices of the network system]).

Finally, Choi teaches step 5: forwarding management messages which are from outside of the cluster and destined to the member devices through standard Network Address Translation (NAT) process to corresponding member devices (see paragraph 16 [a lookup server for managing the plurality of devices] and block 12).

However, Choi fails to explicitly teach step 2 (initiating a topology acquisition process to acquire information of topological architecture of the network). Choi also fails to explicitly teach step 3 (designating candidate devices to be added to the cluster in the topological architecture according to the information of topological architecture). Dinker does teach such limitations. Dinker teaches step 2 (see column 2, lines 27 – 30 [In one embodiment, topology management ensures that the dynamic cluster forms a topology tracking a specified topology arrangement]) and step 3(see column 2, lines 46 – 48 [dynamic cluster membership may be handled by a topology manager])). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have combined the teachings of Dinker to compose a cluster through the following steps: (1) designating a device in the network as the cluster management device and configuring the device correspondingly by the network management device; (2) initiating a topology

acquisition process to acquire information of topological architecture of the network within a specified number of hops in the network by the cluster management device; (3) designating candidate devices to be added to the cluster in the topological architecture according to the information of topological architecture acquired from the cluster management device, and informing the cluster management device to start the cluster member device addition process by the network management device; (4) adding the designated candidate devices to the cluster and configures the candidate devices correspondingly by the cluster management device, so as to make the candidate devices become member devices of the cluster; (5) after the cluster is established, managing the member devices in the cluster by the cluster management device, and forwarding management messages which are from outside of the cluster and destined to the member devices through standard Network Address Translation (NAT) process to corresponding member devices to process, and processing the management messages according to normal processing process by the member devices. The motivation for doing so is to compose and efficiently manage such a cluster.

17. Claims 8 – 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choi in view of Dinker and Poston in view of well known practices in the art.

The limitations of claim 7 have all been discussed above. These references do not appear to explicitly address the specifics of claims 8 – 13. The activities recited in claims 8 -13 are well known housekeeping types of activities that are routine in the art and fail to provide any patentable distinction and Official

Notice of such is taken. It would have been obvious to have modified the combination of Choi, Dinker and Poston discussed above to include the notorious housekeeping functions as recited in claims 8 – 13 in order to enable, maintain and administer routine management services as was well known at the time.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Srisuresh, U. S. 6058431 and Christy, U. S. 6725264.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT BILAS whose telephone number is (571)270-5658. The examiner can normally be reached on Monday - Thursday, Alt. Friday, 7:30am -5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Robertson can be reached on 571-272-4186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. B. /

/David L. Robertson/
Supervisory Patent Examiner
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08/11/08